

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: Not yet assigned
Filing Date: Herewith
Applicant: Sandbach
Title: DETECTOR CONSTRUCTED FROM ELECTRICALLY
CONDUCTING FABRIC
Attorney Docket: 9637-000034

Box PCT
Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Applicant herewith submits this Preliminary Amendment to the application filed herewith, for consideration prior to the calculation of the filing fee, as follows:

IN THE SPECIFICATION

ABSTRACT

Please amend the Abstract to include reference numerals in accordance with the following rewritten Abstract in clean form. Applicant includes herewith an Attachment for Claim Amendments showing a marked up version of the amendments to the Abstract.

ABSTRACT OF THE DISCLOSURE

The present invention relates to a detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in

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response to a mechanical interaction. The detector comprises a first conducting layer (401) which is displaced from a second conducting layer (402) such that conduction between the layers results when the layers are mechanically forced together. In addition, the first of the layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of the lengths of conductive yarn and the conducting yarns in the first of the layers are electrically grouped to define a plurality of identifiable rows. Each identifiable row has a respective electrical conductor; and define specific regions of the detector.

IN THE CLAIMS

Please cancel Claim 24 without prejudice or disclaimer of the subject matter contained therein. Please amend Claims 3 – 8, 11 – 16, and 18 – 23, in accordance with the following rewritten claims in clean form. Applicant includes herewith an Attachment for Claim Amendments showing a marked up version of each amended claim.

3. (Amended) A detector according to claim 1, wherein the second of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn;

in the first of said layers, conducting yarn extends in a first direction and in the second of said layers, conducting yarn extends in a first direction;

the conducting first direction of the first conducting layer is different to the conducting first direction of the second conducting layer;

said conducting yarns in the second of said layers are electrically grouped to define a plurality of identifiable columns;

each said identifiable column has a respective electrical conductor; and

intersections of said columns and rows define specific regions of the detector.

4. (Amended) A detector according to claim 1, wherein said second conducting layers, conducting yarn extends in a first direction and in a second direction different to said first direction.

5. (Amended) A detector according to claim 1, wherein said non-conducting yarn of said second layer extends in a different direction to the conducting direction of said second layer.

6. (Amended) A detector according to claim 1, wherein said detector is configured to present a set of varying electrical characteristics in response to a property of the mechanical interaction such that each varying electrical characteristic corresponds to one of said specific regions.

7. (Amended) A detector according to claim 1, wherein said varying electrical characteristic varies with the pressure applied by the mechanical interaction.

11. (Amended) A detector according to claim 1, wherein a partially electrically conducting layer of fabric is disposed between said first and second conducting layers.

13. (Amended) A detector according to claim 1, wherein a potential is applied across at least one of said specific regions to determine the position of the mechanical interaction.

14. (Amended) A detector according to claim 1, wherein each said identifiable row has an electrical conductor at each of its opposing ends.

15. (Amended) A detector according to claim 3, wherein each said identifiable column has an electrical conductor at each of its opposing ends.

16. (Amended) A detector according to claim 1, wherein said first conducting layer and said second conducting layer constitute single fabric which is constructed to comprise an upper portion and a lower portion, said upper portion comprising insulating weft and conducting warp fibres, and said lower portion comprising conducting weft and an insulating warp fibres.

18. (Amended) A detector according to claim 1, wherein said first conducting layer and said second conducting layer are fabricated such that portions of the insulating fibres stand proud of the conducting fibres.

19. (Amended) A detector according to claim 18, wherein said insulating fibres have a larger dimension than the warp fibres.

20. (Amended) A detector according to claim 1, wherein said fabric is constructed using a weaving process.

21. (Amended) A detector according to claim 1, wherein said fabric is constructed using a knitting process.

22. (Amended) A detector according to claim 1, wherein said detector is configured for use as a bed mattress cover.

23. (Amended) A detector according to claim 1, wherein said detector is configured for use as a keyboard.

24. Cancelled.

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REMARKS

Claim 24 has been cancelled. Claims 3 – 8, 11 – 16, 18 – 23 have been amended. Claims 1 – 2, 9 – 10, and 17 remain unchanged. After acceptance of this Amendment, Claims 1 through 23 will remain pending in the current application. The purpose of this preliminary amendment is to clarify language and remove multiple dependent claims from the application to reduce filing costs . Consideration of the application as amended is requested.

Respectfully submitted,

Date: Nov 21, 2001

Harness, Dickey & Pierce, P.L.C.
P.O. Box 828
Bloomfield Hills, MI 48303
(248) 641-1600

By: Gregory A. Stobbs
Gregory A. Stobbs, Reg. No. 28764
Attorney for Applicant

ATTACHMENT FOR AMENDMENT TO THE SPECIFICATION

IN THE ABSTRACT

The following is a marked up version of the amended Abstract in which underlines indicates insertions.

ABSTRACT OF THE DISCLOSURE

The present invention relates to a detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction. The detector comprises a first conducting layer (401) which is displaced from a second conducting layer (402) such that conduction between the layers results when the layers are mechanically forced together. In addition, the first of the layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of the lengths of conductive yarn and the conducting yarns in the first of the layers are electrically grouped to define a plurality of identifiable rows. Each identifiable row has a respective electrical conductor; and define specific regions of the detector.

ATTACHMENT FOR CLAIM AMENDMENTS

The following is a marked up version of each amended claim in which underlines indicates insertions and brackets indicate deletions.

CLAIMS

3. (Amended) A detector according to claim 1 [or claim 2], wherein the second of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn;

in the first of said layers, conducting yarn extends in a first direction and in the second of said layers, conducting yarn extends in a first direction;

the conducting first direction of the first conducting layer is different to the conducting first direction of the second conducting layer;

said conducting yarns in the second of said layers are electrically grouped to define a plurality of identifiable columns;

each said identifiable column has a respective electrical conductor; and

intersections of said columns and rows define specific regions of the detector.

4. (Amended) A detector according to claim 1 [or claim 2], wherein said second conducting layers, conducting yarn extends in a first direction and in a second direction different to said first direction.

5. (Amended) A detector according to [any of] claim[s] 1 [to 3], wherein said

non-conducting yarn of said second layer extends in a different direction to the conducting direction of said second layer.

6. (Amended) A detector according to [any of] claim[s] 1 [to 5], wherein said detector is configured to present a set of varying electrical characteristics in response to a property of the mechanical interaction such that each varying electrical characteristic corresponds to one of said specific regions.

7. (Amended) A detector according to [any of] claim[s] 1 [to 6], wherein said varying electrical characteristic varies with the pressure applied by the mechanical interaction.

8. (Amended) A detector according to [any of] claim[s] 1 [to 7], wherein said varying electrical characteristic varies with the position of the mechanical interaction.

11. (Amended) A detector according to [any of] claim[s] 1 [to 10], wherein a partially electrically conducting layer of fabric is disposed between said first and second conducting layers.

12. (Amended) A detector according to [any of] claim[s] 1 [to 11], wherein said first conducting layer and said second conducting layer[s] are separated by two layers of electrically insulating fabric and said two layers of electrically insulating fabric

are separated by a partially electrically conducting layer of fabric.

13. (Amended) A detector according to [any of] claim[s] 1 [to 12], wherein a potential is applied across at least one of said specific regions to determine the position of the mechanical interaction.

14. (Amended) A detector according to [any of] claim[s] 1 [to 13], wherein each said identifiable row has an electrical conductor at each of its opposing ends.

15. (Amended) A detector according to [any of] claim[s] 3 [to 14], wherein each said identifiable column has an electrical conductor at each of its opposing ends.

16. (Amended) A detector according to claim 1, wherein said first conducting layer and said second conducting layer constitute single fabric which is constructed to comprise an upper portion and a lower portion, said upper portion comprising insulating weft and conducting warp fibres, and said lower portion comprising conducting weft and an insulating warp fibres.

18. (Amended) A detector according to claim 1, wherein said first conducting layer and said second conducting layer[s] are fabricated such that portions of the insulating fibres stand proud of the conducting fibres.

19. (Amended) A detector according to claim [19] 18, wherein said insulating fibres have a larger dimension than the warp fibres.

20. (Amended) A detector according to [any preceding] claim 1, wherein said fabric is constructed using a weaving process.

21. (Amended) A detector according to [any of] claim[s] 1 [to 19], wherein said fabric is constructed using a knitting process.

22. (Amended) A detector according to [any of] claim[s] 1 [to 21], wherein said detector is configured for use as a bed mattress cover.

23. (Amended) A detector according to [any of] claim[s] 1 [to 21], wherein said detector is configured for use as a keyboard.

24. Cancelled.